

**In the Claims**

1. (Previously Presented) In a PCM modem system including an analog modem coupled to a digital modem, a method for controlling the transmit power of the analog modem, comprising the steps of:

detecting the transmit power level of the analog modem; and,

adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level,

wherein said detecting and said adjusting are performed during design of a constellation, and wherein the transmit power level of the analog modem is used as a parameter in the design of the constellation.

2. (Original) The method of Claim 1, wherein the analog modem sets the analog modem's own transmit power level.

3. (Original) The method of Claim 1, wherein the transmit power level of the analog modem is set by the digital modem.

4. (Original) The method of Claim 3, wherein the PCM modem system adjusts the power level of the analog modem by transmitting mapping parameters including equivalence classes used in the analog modem and wherein the transmit power level is proportional to the number of equivalence classes.

5. (Original) The method of Claim 4, wherein the digital modem sets the analog modem transmit power by changing the number of equivalence classes employed.

6. (Original) The method of Claim 5, wherein the digital modem estimates the transmit power of the analog modem during a startup mode.

7. (Original) The method of Claim 6, and further including the step of transmitting the difference between the detected power level and the desired power level to the digital modem for use by the digital modem in changing the number of equivalence classes employed, thus to adjust the power level of a transmitting portion of the analog modem.

8. (Original) The method of Claim 1, wherein the adjustment of the transmit power level of the analog modem is such as to maintain the transmit power level within FCC set limits.

9. (Original) The method of Claim 1, wherein the adjusted transmit power level at the analog modem optimizes the PCM modem system by minimizing echo power to minimize noise components due to imperfect echo cancellation and by minimizing non-linearities and downstream performance degradation.

10. (Previously Presented) In a PCM modem system including an analog modem coupled to a digital modem, a method for controlling the transmit power of either of the modems, comprising the steps of:

detecting the transmit power level of a modem; and,

adjusting the transmit power level at the modem in accordance with the difference between the detected transmit power level at the modem and a desired transmit power level,

wherein said detecting and said adjusting are performed during design of a constellation, and wherein the transmit power level of the analog modem is used as a parameter in the design of the constellation.

11. (Original) The method of Claim 10, wherein the transmit power level of the modem is set by the other of the modems.

12. (Currently Amended) In a PCM modem system including an analog modem coupled to a digital modem, a method for controlling a transmit power of either of the modems comprising [using a measured];

measuring a transmit power level of at least one of the analog modem and the digital modem

using the measured transmit power level as a parameter in designing a constellation.

13. (Previously Presented) The method of Claim 12, wherein the measured transmit power level is of the analog modem.

14. (Previously Presented) The method of Claim 12, wherein the constellation is designed by the digital modem.

15. (Previously Presented) The method of Claim 12, wherein the PCM modem system adjusts the transmit power of the analog modem by transmitting mapping parameters including equivalence classes used in the analog modem.

16. (Previously Presented) The method of Claim 12, wherein the digital modem sets the transmit power of the analog modem by changing a number of equivalence classes employed.

17. (Previously Presented) A PCM modem system, comprising:  
a digital modem which designs an initial constellation;  
an analog modem which measures a transmit power of the analog modem for the initial constellation, said analog modem provides information relating to the transmit power of the analog modem for the initial constellation to the digital modem;  
wherein the digital modem uses the information relating to the transmit power of the analog modem for the initial constellation to determine whether to modify the initial constellation.

18. (Previously Presented) The PCM modem system as in Claim 17, wherein the digital modem sets the transmit power of the analog modem by changing a number of equivalence classes employed.

19. (Previously Presented) The PCM modem system as in Claim 17, wherein the information provided from the analog modem to the digital modem is a difference between a measured analog modem transmit power for the initial constellation and a desired analog modem transmit power for the initial constellation.

20. (Previously Presented) The PCM modem system as in Claim 17, wherein the digital modem selectively modifies the initial constellation based on the information relating to the transmit power of the analog modem for the initial constellation.

21. (Previously Presented) In a PCM modem system including an analog modem coupled to a digital modem, a method for controlling the transmit power of the analog modem, comprising the steps of:

detecting the transmit power level of the analog modem; and,

adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level.

22. (Previously Presented) In a PCM modem system including an analog modem coupled to a digital modem, a method for controlling the transmit power of either of the modems, comprising the steps of:

detecting the transmit power level of a modem; and,

adjusting the transmit power level at the modem in accordance with the difference between the detected transmit power level at the modem and a desired transmit power level.